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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,769	01/15/2002	Daniel L. Klave	SLA1062	9701

50735 7590 01/03/2007

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EXAMINER	
FOWLKES, ANDRE R	
ART UNIT	**PAPER NUMBER**
2192	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/047,769	KLAVE ET AL.	
	Examiner	Art Unit	
	Andre R. Fowlkes	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 9/29/06.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 47-75 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 47-75 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/29/06 has been entered.

2. Claims 47-75 are pending. Claims 1-46 have been canceled. New claims 47-75 have been added.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 47-51. 54-61, 64-70 and 73-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deo et al., (Deo), U.S. Patent No. 6,226,665, in view of Aguilar et al., U.S. Patent No. 6,446,203, and further in view of Parry, U.S. Patent Application Publication No. 2003/0078963.

As per claim 47, Deo discloses a **multi-functional peripheral configured to reduce volatile memory usage by loading some individual software components and not loading other individual software components,** (col. 2:46-64, "a method is defined for executing a software application on a system having a processor so as to minimize a RAM capacity required while the processor executes the software application. The method includes the step of providing application code that is divided into specific software components. The software components include variables and an event handler. A first portion (comprising individual software components) of the variables and the event handler for the software application are loaded (using a loader application) from a storage memory (i.e. non-volatile memory) that is not used for execution of the application, into a RAM of the system and are executed from the RAM using the processor", and col. 14:50-58, "in response to either the change in the state of the system or the new event ... loading another software component into the RAM from the storage memory ... for execution by the processor", and in the Deo system, any software component not resident in the storage memory is not loaded), **the multi-functional peripheral comprising:**

- a processor (col. 2:46-64, "processor"),

- volatile memory in electronic communication with the processor (col. 2:46-64, "RAM (i.e. volatile memory"),

- non-volatile memory in electronic communication with the processor, (col. 2:46-64, "storage memory (i.e. non-volatile memory)"), **comprising:**

- **a plurality of individual software components that are to be loaded into volatile memory** (col. 2:46-64, "a method is defined for executing a software application on a system having a processor so as to minimize a RAM capacity required while the processor executes the software application. The method includes the step of providing application code that is divided into specific software components. The software components include variables and an event handler. A first portion (comprising individual software components) of the variables and the event handler for the software application are loaded (using a loader application) from a storage memory (i.e. non-volatile memory) that is not used for execution of the application, into a RAM of the system and are executed from the RAM using the processor. Any change in a state of the system and any new event is detected by the processor while it executes the software components loaded into the RAM. In response to either a change in the state of the system or a new event, another software component (from a plurality of components) is loaded into the RAM for execution by the processor"),

- **a plurality of individual software components that are not to be loaded into volatile memory** (col. 14:50-58, "in response to either the change in the state of the system or the new event ... loading another software component into the RAM from the storage memory ... for execution by the processor", and in the Deo system, any software component not resident in the storage memory is not loaded into volatile memory),

- **a loading table to control which of the individual software components are loaded into volatile memory and which of the individual software components are not loaded into volatile memory** (col. 5:39-41, "operating as a state machine (i.e. loading table), specific modules of p-code (i.e. software components) are swapped into the RAM", and col. 14:50-58, "in response to either the change in the state of the system or the new event ... loading another software component into the RAM from the storage memory ... for execution by the processor", and in the Deo system any software component not resident in the storage memory is not loaded into volatile memory),

- **instructions stored in the non-volatile memory that are executable to:**

-**examine the loading table to determine which of the individual software components are to be loaded into the volatile memory and which of the individual software components are not to be loaded into volatile memory** (col. 2:46-64, "a method is defined for executing a software application on a system having a processor so as to minimize a RAM capacity required while the processor executes the software application. The method includes the step of providing application code that is divided into specific software components. The software components include variables and an event handler. A first portion (comprising individual software components) of the variables and the event handler for the software application are loaded (using a loader application) from a storage memory (i.e. non-volatile memory) that is not used for execution of the application, into a RAM of the system and are executed from the RAM using the

processor. Any change in a state of the system and any new event is detected by the processor while it executes the software components loaded into the RAM. In response to either a change in the state of the system or a new event, another software component is loaded into the RAM for execution by the processor, replacing at least one of the software components previously loaded. These steps repeat until execution of the software application is terminated", and col. 14:50-58, "in response to either the change in the state of the system or the new event ... loading another software component into the RAM from the storage memory ... for execution by the processor", and in the Deo system, any software component not resident in the storage memory is not loaded into volatile memory),

- selectively load each of the individual software components that are to be loaded as indicated in the loading table into the volatile memory and not load the individual software components that are not to be loaded into the volatile memory as indicated in the loading table, wherein the individual software components that are not to be loaded are not loaded into volatile memory until the loading table is reconfigured to indicate that the individual software components are to be loaded into volatile memory (col. 2:53-58, "A first portion of the variables and the event handler (i.e. an individual software component) for the software application are loaded (using a loader application) from a storage memory (i.e. non-volatile memory) that is not used for execution of the application, into a RAM (i.e. volatile memory) of the

system", and col. 14:50-58, "in response to either the change in the state of the system or the new event ... (changing the state of the state/loading table and) loading another software component into the RAM from the storage memory ... for execution by the processor").

Deo doesn't explicitly disclose that the **loading table is directly configurable by a user.**

However, Aguilar, in an analogous environment, discloses that the **loading table is directly configurable by a user** (col. 2:6-11, "In the preferred embodiment, the boot code sequence responds to a specified user input sequence by presenting the user with a configuration screen suitable for altering the value of the image selection indicator such that the user may alter the boot image (i.e. the group of individual software components) that will be loaded during a subsequent execution of the boot sequence (i.e. during the starting of the operating system).").

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to incorporate the teachings of Aguilar into the system of Deo to have a **loading table that is directly configurable by a user.** The modification would have been obvious because one of ordinary skill in the art would have wanted a convenient way of allowing the user to load different types of software at startup time (Aguilar col. 1:29-45).

Further, the Deo/Aguilar combination doesn't explicitly disclose that the multi-functional peripheral comprises **a printer.** However, Parry in an analogous environment, discloses a multi-functional peripheral device that comprises **a printer** (¶ 21:14-15, "multifunctional printers, fax machines, copiers").

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to incorporate the teachings of Parry into the Deo/Aguilar system to incorporate a printer. The modification would have been obvious because one of ordinary skill in the art would have wanted the flexibility of loading different types of software at startup time on a printer, as well as on all other types of peripherals.

As per claim 48, the rejection of claim 47 is incorporated, and further Deo doesn't explicitly disclose that **the multi-functional peripheral is a printer/fax/copier.** However, Parry in an analogous environment, discloses a multi-functional peripheral device that comprises **a printer/fax/copier** (¶ 21:14-15, "multifunctional printers, fax machines, copiers").

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to incorporate the teachings of Parry into the Deo/Aguilar system to incorporate a printer. The modification would have been obvious because one of ordinary skill in the art would have wanted the flexibility of loading different types of software at startup time on a printer/fax/copier, as well as on all other types of peripherals.

As per claim 49, the rejection of claim 47 is incorporated, and further Deo discloses **an input component in electronic communication with the processor for a user to enter user input and thereby configure the loading table** (col. 4:28-36, "Nomad includes a housing 32 and has a user interface that includes a keypad 36 disposed on the top of housing and having four buttons that are used to control the display and the functions performed by Nomad in connection with its conventional paging function and its PIM data management functions. The buttons comprise an Action button 42, a Back button 44, an Up button 38, and a Down button 40. The buttons navigate the user through a directory/menu hierarchy").

As per claim 50, the rejection of claim 49 is incorporated, and further Deo discloses **a display in electronic communication with the processor that displays information to the user relating to the loading table** (col. 4:28-36, "Nomad includes a housing 32 and has a user interface that includes a keypad 36 disposed on the top of housing and having four buttons that are used to control the display and the functions performed by Nomad in connection with its conventional paging function and its PIM data management functions. The buttons comprise an Action button 42, a Back button 44, an Up button 38, and a Down button 40. The buttons navigate the user through a directory/menu hierarchy").

As per claim 51, the rejection of claim 50 is incorporated, and further Deo discloses **a menu structure that may be navigated by a user using the input component and the display to configure the loading table** (col. 4:28-36, "Nomad includes a housing 32 and has a user interface that includes a keypad 36 disposed on the top of housing and having four buttons that are used to control the display and the functions performed by Nomad in connection with its conventional paging function and its PIM data management functions. The buttons comprise an Action button 42, a Back button 44, an Up button 38, and a Down button 40. The buttons navigate the user through a directory/menu hierarchy").

As per claim 54, the rejection of claim 47 is incorporated, and further Deo discloses that **the individual software components are software libraries** (col. 2:51, "software components (i.e. software libraries)").

As per claim 55, the rejection of claim 47 is incorporated, and further Deo discloses **a communications module in electronic communication with the processor for communications with a computer** (col. 13:46-48, "Also coupled to the object maker is a network interface 266, which provides communication to other computers (via the web)"), **and a web interface accessible by a user through use of a web browser to configure the loading table** (col. 13:46-48, "Also coupled to the object maker is a network interface 266, which provides communication to other computers (via the web)").

As per claim 56, the rejection of claim 47 is incorporated, and further Deo discloses **examining hardware configuration by the loader application and modifying the loading table based on the hardware configuration** (col. 14:50-58, "in response to either the change in the state (i.e. configuration) of the system (i.e. hardware) or the new event ... (changing the state of the state/loading table and) loading another software component into the RAM from the storage memory ... for execution by the processor", and in the Deo system, any software component not resident in the storage memory is not loaded into volatile memory).

As per claims 57-61 and 64-66, this is a computer readable medium version of the claimed system discussed above, in claims 47-51 and 54-56, wherein all claimed limitations have also been addressed and/or cited as set forth above. For example, see the Deo/Aguilar/Parry system (Deo col. 2:45-3:50, Aguilar col. 2:6-11 and Parry col. 21:14-15).

As per claims 67-70 and 73-75, this is a method version of the claimed system discussed above, in claims 47-51 and 54-56, wherein all claimed limitations have also been addressed and/or cited as set forth above. For example, see the Deo/Aguilar/Parry system (Deo col. 2:45-3:50, Aguilar col. 2:6-11 and Parry col. 21:14-15).

4. Claims 52-53, 62-63, and 71-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deo et al., (Deo), U.S. Patent No. 6,226,665, in view of Aguilar et al., U.S. Patent No. 6,446,203, further in view of Parry, U.S. Patent Application Publication No. 2003/0078963 and further in view of Buxton et al., (Buxton), U.S. Patent No. 5,970,252.

As per claim 52, the rejection of claim 47 is incorporated, and further the Deo/Aguilar/Parry system doesn't explicitly disclose that **the loading table is a license table comprising a list of licenses relating to the individual software components**.

However, Buxton, in an analogous environment, discloses that **the loading table is a license table comprising a list of licenses relating to the individual software components** (col. 18:1-3, "If a component's certification is not on the list, it is assumed that the component is unlicensed and therefore is not loaded and its use is unauthorized").

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to incorporate the teachings of Buxton into the Deo/Aguilar/Parry system to have **the loading table is a license table comprising a list of licenses relating to the individual software components**. The modification would have been obvious because one of ordinary skill in the art would have wanted to ensure that the component is properly licensed and is used within the terms and conditions (Buxton 17:18-47).

As per claim 53, the rejection of claim 52 is incorporated, and further the Deo/Aguilar/Parry system doesn't explicitly disclose that **the individual software components with licenses, as indicated by the license table, are loaded into the volatile memory**.

However, Buxton, in an analogous environment, discloses that **the individual software components with licenses, as indicated by the license table, are loaded into the volatile memory** (col. 18:1-3, "If a component's certification is not on the list, it is assumed that the component is unlicensed and therefore is not loaded and its use is unauthorized, (software components with licenses are loaded into the volatile memory)").

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to incorporate the teachings of Buxton into the Deo/Aguilar/Parry system to have **the individual software components with licenses, as indicated by the license table, are loaded into the volatile memory**. The modification would have been obvious because one of ordinary skill in the art would have wanted to ensure that the component is properly licensed and is used within the terms and conditions (Buxton 17:18-47).

As per claims 62-63, and 71-72, the Deo/Aguilar/Parry/Buxton combination also discloses such claimed limitations as addressed in claims 52-53 above, respectively. For example, see the Deo/Aguilar/Parry/Buxton system (Deo col. 2:45-3:50, Aguilar col. 2:6-11, Parry col. 21:14-15 and Buxton 17:18-47).

Response to Arguments

5. Applicants arguments have been considered but they are not persuasive.

In the remarks, the applicant has argued substantially that:

1) None of the cited references disclose that the individual software components that are not to be loaded are not loaded into volatile memory until the loading table is reconfigured to indicate that the individual software components are to be loaded into volatile memory, at p. 9:24-11:6.

Examiner's response:

1) The examiner disagrees with applicant's characterization of the applied art. Deo does disclose that the individual software components that are not to be loaded are not loaded into volatile memory until the loading table is reconfigured to indicate that the individual software components are to be loaded into volatile memory, at col. 14:50-58, "in response to either the change in the state of the system or the new event ... (changing the state of the state/loading table and) loading another (desired) software component into the RAM from the storage memory ... for execution by the processor."

In the remarks, the applicant has argued substantially that:

2) None of the cited references disclose examining hardware configuration by the loader application and modifying the loading table based on the hardware configuration, at p. 11:13-12:15.

Examiner's response:

2) The examiner disagrees with applicant's characterization of the applied art. Deo does disclose examining hardware configuration by the loader application and modifying the loading table based on the hardware configuration at col. 14:50-58, "in response to either the change in the state (i.e. configuration) of the system (i.e. hardware) or the new event ... (changing the state of the state/loading table and) loading another software component into the RAM from the storage memory ... for execution by the processor."

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre R. Fowlkes whose telephone number is (571) 272-3697. The examiner can normally be reached on Monday - Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571)272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ARF

TUAN DAM
SUPERVISORY PATENT EXAMINER